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NESTING RECORDS OF THE DUSKY POOR-WILL

(WITH FIVE PHOTOS)

By JOSEPH DIXON

(Contribution from the Museum of Vertebrate Zoology of the University of California)

FROM THE collector's standpoint the most striking thing about the Dusky Poor-will is the scarcity of its eggs in spite of the commonness of the birds. It is easier to find half a dozen nests of the Golden Eagle than to locate one nest of the Dusky Poor-will. It has been the experience of several bird students who have lived as long as twenty years in the same locality to fail to find a single nest even though the birds had been encountered all through the breeding season, and although diligent search has been made year after year. The writer is to be included among those who "also ran." The difficulty in locating a nest except through mere chance, by stumbling upon the brooding bird, is the apparent reason why eggs have so rarely been found.

All told there are published records of some twelve sets of eggs taken, and there are probably about as many more sets which have been taken but not recorded. It is the purpose of this paper to place on record some unpublished data and to bring together scattered facts which relate to the nesting of this bird.

The Dusky Poor-will (*Phalaenoptilus nuttalli californicus*) occurs regularly in the Upper Sonoran zone of California, west of the Sierran divide, from about latitude 40° south to the Mexican boundary. The steep southern slopes and ridges of the lower foothills (see fig. 24) constitute the local habitat of the bird. The form of the poor-will may be often dimly seen huddled in the middle of some dusty road or cow-path in the dusk of evening. From such a lowly but strategic position in the dust, below the sky line, a poor-will makes short, sudden forays up into the air after nightflying insects. These are captured on the wing by the aid of an unusually wide-gaping mouth, which is provided with a fringe of bristles on either side. This extension of bristles makes the escape of an insect doubly difficult.

The flight of the poor-will is noiseless and moth-like. After securing its prey the bird frequently returns to its former resting place in the dust. In dim light, the white throat patch and hesitating flight below the skyline are both good field identification marks.

The call and alarm notes of the Dusky Poor-will have been described by R. H. Lawrence (in Bendire, 1895, p. 158) as follows: "According to my hearing, the words 'Pearl-rab-it' give a fair idea of its call in letters. . . . When startled it gave quickly, two or three times in succession, a low soft note, like 'pweek, pweek, pweek,' which could not be heard a few yards away." In addition to this alarm note, which to the present writer sounds more like *puck!* *puck!* *puck!* the poor-will has a habit of hissing like a snake when wounded or when hard pressed. In one instance in the author's experience the hissing was accompanied by the fluffing up of the feathers all over the body and by the opening of the cavernous mouth, all these actions tending to produce quite vividly the effect of a rattlesnake coiling ready to strike. Since rattlesnakes are partial to the same type of country that the poor-wills inhabit, the bird's bluff, viewed from the human standpoint, is quite effective. The writer has never heard this bird utter any note which sounded like "poor-will" except when heard from a distance. It has always, to his ear, sounded like "Pearl-ral-ly."



FIG. 24. THE ROCKY SOUTHERN SLOPES OF THE FOOTHILLS; THE LOCAL HABITAT OF THE DUSKY POOR-WILL.

The foraging grounds of a pair of nesting poor-wills may be 200 or more yards from their nest, so that the appearance of a bird or birds at a given point night after night affords slight clue to the exact locality of the nest.

There is good evidence that poor-wills return to the same locality to nest year after year. In 1900, and for several years thereafter, the author and his brother, James B. Dixon, found a pair of the birds in late March and early April, on a little sumac-covered flat, less than an acre in extent, near an eagle's eyrie. Although the birds were flushed repeatedly from dusty nest-like depressions and gave many other indications of nesting, we never succeeded in locating any eggs, probably because we did not continue our search until late enough in the season. Dr. J. Grinnell tells me that Mr. Edward Simmons, formerly a member of the Cooper Club, found a certain pair near Altadena nesting in the same locality year after year.

The nesting season extends over a period of at least three months, as will

TABLE SHOWING EXTENT OF NESTING SEASON
OF THE DUSKY POOR-WILL IN CALIFORNIA

Observer	Reference	Locality (approximate)	Date	Evidence	Incubation
A. M. Ingersoll	Willlett, 1912, p. 57; letter, June 5, 1922	"San Diego" [= <u>lake</u> - side]	March 22, 1895	2 eggs	advanced
A. van Rossem	van Rossem and Bowles, 1920, p. 61	Saugus	April 18, 1919	2 eggs	slight
E. Simmons	Grinnell, 1898, p. 26	Pasadena	April 21, 1895	2 eggs	fresh
R. H. Lawrence	Bendire, 1895, p. 158	Monrovia	May 5, 1893	2 eggs	fresh
C. Schnack	MS	Escondido	May 18, 1922	2 eggs	fresh
C. L. Camp	MS	Pleasant Valley, Mariposa Co.	May 21, 1915	9 collected contained eggs
A. M. Ingersoll	Beidling, 1890, p. 75; Skirm, 1884, p. 149; McGregor, 1901, p. 9	Santa Cruz	May 25, 1883	2 eggs
M. S. Ray	Ray, 1905, p. 364	Folsom	June 8, 1903	2 young nearly full-fledged
E. Simmons	Grinnell, 1898, p. 26	Pasadena	June 14, 1893	2 eggs	advanced
J. B. Dixon	MS	Escondido	June 19, 1921	2 eggs	slight
B. F. Dixon	MS	Escondido	June 20, 1922	2 eggs	fresh
F. M. Palmer	Palmer, 1900, p. 130	Eagle Rock Valley	June 24, 1900	2 eggs	slight
Antonin Jay	Willlett, 1912, p. 57	Monrovia	June 29, 1904	2 eggs	commenced
A. L. Parkhurst	Parkhurst, 1883, p. 79	Stanislaus Co.	July 13, 1883	2 eggs
C. Littlejohn	letter, June 7, 1922	San Carlos	July 15, 1885	2 eggs	fresh
W. F. Taylor	MS	Covelo	July 19, 1913	1 half-grown young collected
Joseph Malliard	Malliard, 1909, p. 47	San Geronimo	July 22, 1908	2 eggs	one-third
A. S. Bunnell	Stone, 1904, p. 581	Mt. Sanhedrin	July 23, 1897 (?)	2 eggs
Donald D. McLean	MS	Dadley, Mariposa Co.	August 9, 1920	2 half-grown young collected

be seen from the accompanying table. Normally, but one brood is reared in a season.

'Nests' of the Dusky Poor-will are usually located between clumps of yucca plants or clumps of sage and sumac bushes growing on the hot southern exposures of rocky hillsides. Parkhurst (1883, p. 79) reports finding two



Fig. 25. THE EGGS OF THE DUSKY POOR-WILL ARE LAID ON THE BARE GROUND, USUALLY IN A LITTLE OPENING SURROUNDED BY DENSE BRUSH.

eggs of the Dusky Poor-will in Stanislaus County "on a bare hard alkali spot in a grain field." This, however, is exceptional. In the majority of cases the nest is located at the edge of dense brush bordering upon a small open space (see fig. 25). The brooding bird is not infrequently unprotected from the

direct rays of the noonday sun, but at other times is protected by shadows cast by the surrounding brush.

The majority of poor-will nests that have been found, have been discovered by accident. The nest found by Schnack was located through a dog's frightening the bird away from the nest. The bird fluttered off uttering an alarm note, *puck! puck! puck!* In its haste to escape the dog, the bird flew almost into the man's arms. The nest found by J. B. Dixon was discovered because the bird had happened to nest within three feet of a used trail. Van Rossem flushed his bird from its nest by nearly stepping upon it, when he was in hot pursuit of a rare butterfly. Mailliard, likewise, discovered his set through accidental flushing of the bird from its nest.

When flushed at midday the bird usually returns to its nest within ten minutes. Some birds prove so shy that it is difficult to photograph them on the nest.



Fig. 26. THE TWO CREAMY TINTED EGGS LAY IN A SLIGHT CAVITY WHICH THE POOR-WILL HAD SCRATCHED OUT IN THE SOFT EARTH UNDER A SUMAC BUSH.

Photo by J. B. Dixon.

No attempt is made by poor-wills at building a nest, that is, in the ordinary sense of the word. The set of eggs found by J. B. Dixon was lying on the bare earth, in a little depression which the bird itself had evidently made by wallowing in the soft earth. This depression was four inches long, three inches wide, and one inch deep, and was located at the edge of an opening under a sumac bush (see fig. 26). The nest found by Schnack was likewise merely a depression made in the soft earth after the original covering of dead sumac leaves had been cleared away (see fig. 28). The nest cavity in this instance was four and a half inches long, three inches wide, and an inch deep.

Roosting beds similar to the nest cavities just described are commonly

scratched out by the birds early in the breeding season. Palmer (1900, p. 130) states: "The eggs were lying in a shallow depression in the earth about the



Fig. 27. A DUSKY POOR-WILL ON NEST. NOTE THE BLENDING OF THE BIRD (lower center) WITH THE PATCHES OF SUNLIGHT AND SHADOW.

Photo by J. B. Dixon.

size of a man's hand and no attempt whatever had been made to keep the eggs from direct contact with mother earth." Mailliard (1909, p. 47) says: "The

eggs were placed upon the bare fragments of rock." Ray (1905, p. 363) states: "The nearly full-fledged young were on the bare ground." Van Rossem and Bowles (1920, p. 61) give the following: "Eggs lying on bare ground among pebbles," and Stone (1904, p. 581) says: "Two eggs found on a bare rock."

Both birds assist in incubation. This fact was definitely proved by the capture of the male bird as it flew from the nest found by C. Schnack. This bird was seen to fly directly from the eggs and was secured before it was out of sight. The specimen, now number 43238 in the bird collection of the Museum of Vertebrate Zoology, was prepared by the present writer. The bird was unquestionably a male in full breeding condition. Positive identification as to the sex of the incubating bird appears to be lacking in many cases, the observer presuming the bird on the nest to be the female. It may be possible that the above case is not so exceptional



Fig. 28. THE NEST AFTER THE MALE HAD BEEN FLUSHED. THE EGGS ARE ELLIPTICAL IN FORM, AND ARE PURE WHITE.

as published records indicate. It may not be amiss to point out that in the adult male Dusky Poor-will the white terminal band of the outer tail feathers is *white* like the throat patch. In the female this band is narrower and brownish like the spotting on the primaries. In looking over a large series of specimens, the author finds that in the adult males the white tail band is one-half inch or more wide, while in females this band is less than one-half inch in width.

Eggs of the Dusky Poor-will vary considerably in color, in shell texture, and in markings. In form and size the eggs appear to be constant. In outline, the eggs have the form of an ellipse (see fig. 28). Occasionally the smaller end of the egg will be slightly more pointed than the larger end, but usually the eggs are equally rounded at the two ends. The average measurements of

eight eggs (four measured by the writer and four as recorded in the literature) are $1.04 \times .77$ inches (26.4×19.7 millimeters).

Compared with eggs of the Mourning Dove, with which they are sometimes confused, the eggs of the Dusky Poor-will are somewhat smaller, averaging $1.04 \times .77$ inches as against the dove's $1.15 \times .80$. Nearly all the eggs of the Dusky Poor-will have either a creamy tint or else show fine purplish markings. The shell is of rougher grain and shows less polish than do eggs of the dove. The poor-will lays its eggs directly on the ground. Mourning Doves, too, sometimes do this, but usually they make some attempt at nest building.

The eggs collected with the male parent in 1922, now in the collection of J. B. and J. S. Dixon, are pure white, with a smooth glossy surface of moderate polish. They lack the creamy tint usually found in eggs of this poor-will and resemble in many ways small eggs of the Mourning Dove. Except for size, this set corresponds well with the earlier descriptions of the eggs, as found in Davie (1889, p. 226) and Reed (1904, p. 201). Of this set, egg 1 measured $1.05 \times .77$ inches and when fresh and unblown weighed 5.5 grams. Egg 2, also fresh, measured $1.03 \times .76$ inches and weighed 5.9 grams. At first glance it seemed that the longer egg should weigh more than the other, but repeated weighings showed that the egg which was more nearly spherical in shape weighed the most. The two eggs found by J. B. Dixon in 1921 have a decided creamy shell tint which is still unfaded one year after being blown. The texture of the shell of this set is slightly rough and the surface is not highly polished. No one would confuse this set with eggs of the Mourning Dove. The set of eggs taken by Lawrence in 1893 is described by Bendire (1895, p. 159) as having a "pale creamy tint, with a faint pinkish tinge" and as measuring $1.04 \times .76$ and $.99 \times .76$ inches. Parkhurst (1883, p. 79) described eggs he collected as follows. "They were glossy white with small gray and bluish purple markings." Palmer (1900, p. 130) states: Eggs "delicately-faint, 'creamy-white,' slightly intensified at one end, also showing at this end very faint shell markings of small brown spots. The eggs measure about $1.05 \times .80$ inches in size and are elliptical in form."

Van Rossem and Bowles (1920, p. 61) describe a set as follows: "Before blowing, the ground color was a strong salmon pink; but this, after blowing, turned to a clear, glossy, pinkish white. . . . Around the larger ends was a rather dense wreath of lavender and dusky spots and dots. . . . In course of time many of the smaller dots have faded out, leaving only a comparatively few spots and dots to show where the heavy wreath was once located." It is evident from the foregoing accounts that eggs of the Dusky Poor-will may be (1) plain white, (2) creamy white, or (3) either of these with purplish or brown shell markings in the form of dots which may even form a ring about the larger end of the egg. Many other members of the 'goat-sucker' family lay well-marked eggs; so we need not be surprised to find this family character cropping out in the Dusky Poor-will.

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Berkeley, California, July 5, 1922.

A LITTLE KNOWN ORNITHOLOGICAL JOURNAL AND ITS EDITOR, ADOLPHE BOUCARD, 1839-1904

By CHARLES A. KOFOID

THE LIFE and work of Adolphe Boucard, French ornithologist, naturalist, and collector, is of peculiar interest to American ornithologists, and to Californians in particular, because it is due to his activity that many private collections and museums of the Old World and the New were supplied with excellently prepared skins of those jewels of the tropical forests of the western world, the humming birds.

Boucard's visit to California occurred during the height of the gold excitement, for he lived in San Francisco from August 15, 1851, to August 18, 1852. Part of the time he lived on a little bay (Mission Bay?) about a mile and a half from the city; later he moved to the top of Stockton Street on the edge of Chinatown where there were then only three houses. His activities as a naturalist increased with this change of residence. In his Travels (p. 49) he says:

From March to August, I collected specimens of Natural History. Many were the species of beetles and butterflies that I collected in the suburbs of San Francisco. During my rambles I very often met another Frenchman, the well-known collector Lorquin, who was chiefly searching for insects. Lorquin was an enthusiastic collector, who had already done good work in Philippines, Célèbes, and New Guinea. I also collected many species of birds, and more particularly Humming-birds. Two species were abundant, *Calypte annae* and *Selasphorus rufus*. I found many nests of these two species during the months of March and April, and at one time I had as many as sixty of them alive, all taken from the nests. I fed them with fresh flowers and small insects. Some of them lived four months. At first I had them all together in a large cage made on purpose, but as soon as they were grown up, they began to fight so much that I was obliged to put them in separate cages. I put one pair in each, and I succeeded in keeping them alive and well for a long time. My intention was to send them alive to Europe, but even the most robust died at sea, and it was a complete failure. (See Palmer, Condor, xvii, p. 168.)

Between 1854 and 1867 he made two expeditions into southern Mexico collecting for Selater and others. In 1865 he was made a corresponding member of the Zoological Society of London and at about this time seems to have had some relations with the French expedition into Mexico and Central America which was a scientific offshoot of the ill-fated French political occupation of Mexico. Although his residence in Mexico and his connection with this enterprise is outlined in his preface to his *Travels of a Naturalist*, unfortunately no statement concerning his experiences is included in the text.

In 1891 we learn from the advertising pages of *The Humming Bird* that he had moved his business from Paris to London, at 225 High Holborn Street, where the firm of Boucard, Pottier & Co. "beg to advise directors of museums and private Amateurs that they undertake to stuff from a humming bird to a whale at very reasonable prices." It also appears that they conducted a general natural history business, supplying skins and feathers to the millinery trade, conducting auctions at which humming birds sold at 1½ to 10 pence each, and offering long lists of skins, including many parrots and 319 species of humming birds, at from 2 to 200 shillings each. *Calypte annae* is listed at 6 shillings, *Stellura calliope* at 20, and *Selasphorus rufus* at 5. Bright insects are offered for makers of jewelry and artificial flowers, books and supplies for naturalists, and a fine mounted Great Auk for £50.

The Humming Bird ran a brief course from January, 1891, when the first number was issued in quarto form, till its termination in 1895 in volume 5. Volumes three and four included his *Travels of a Naturalist*, and his *Genera of Humming Birds* appeared as a part of the journal from 1892 to 1895. The journal itself continued during these years in gradual but steady diminuendo. It changed to octavo in 1892, and from a monthly to a quarterly in the third volume, and to a single number in the fifth and last volume.

The bibliographical citations are as follows:

The Humming Bird, a monthly scientific, artistic, and industrial review. Edited under the direction of Adolphe Boucard, London, "Guaranteed circulation 5000".

Volume 1, 12 numbers, January-December, 1891, 90 pages. Portrait of Boucard. 4to.

Volume 2, 12 numbers, January-December, 1892, iv+136 pp., and (Jan.-July) pp. 1-56 of the "Genera of Humming Birds", 8vo.

Volume 3, changed to quarterly, four numbers, (title page incorrectly reads "volume IV"), [iv]+72 pp., pp. 55-106 of the "Genera of Humming Birds." Pages 55 and 56 of the Genera are repeated, and pp. 1-125 [6] of "Travels of a Naturalist", 1893, are included.

Volume 4, four numbers, [iv]+68 pp., pp. 107-202 of the "Genera of Humming Birds"; pp. 127-204, i-viii of "Travels of a Naturalist", 1894.

Volume 5, one number; 32 pp., pp. 203-412 and i-xiv, of "Genera of Humming Birds". [This number contains the statement that the publication would be suspended.]

The statement is made in the closing number that his collection had been given to the Museum of Natural History in the *Jardin des Plantes* at Paris, on the condition that it should be kept separately, the original labels preserved attached to the skins, and that the collections would always be accessible to ornithologists and specialists. Duplicates were offered to the museums at Washington, Lisbon, and Madrid.

Little bibliographic notice was taken of *The Humming Bird* or its articles in scientific bibliographies. The *Zoologischer Anzeiger* records volume 1 and four articles, but omits all reference to later articles or subsequent numbers. It omits all reference to the *Genera of Humming Birds*. The *Zoological Record* notes certain parts and the whole of the *Genera*, but that incorrectly. It lists the *Journal* as appearing in 1896 and 1897, two years beyond its brief existence. The *Archiv für Naturgeschichte* does fuller justice to these contributions. Of the 31 scientific or near-scientific articles in ornithology, entomology, and conchology in *The Humming Bird*, only 7 appear in any form in the *Zoological Record*, only 4 in the *Zoologischer Anzeiger*, and I can find but 12 in the *Archiv für Naturgeschichte*. In some cases incorrect or incomplete statements of pagination mar these citations. These may have arisen in some instances from a lack of a complete file of the numbers.

The journal, however, contains descriptions of no less than 44 new species of humming birds, 5 insects, and a mollusk, while 13 species and 2 new genera are accredited to the *Genera of Humming Birds*. It seems probable that the commercial features of the first volume discredited the scientific contents or that the journal was overlooked by the bibliographers.

It is interesting to note the range of subjects in the brief articles which fill the journal. Boucard was deeply interested in the projects for the Panama and Nicaragua canals and repeatedly carried on propaganda for both. He was also much interested in the expositions at Philadelphia and Chicago, in the Midwinter Fair at San Francisco, and in the Exposition at Paris where he represented Guatemala. He was also an ardent apostle of free trade and publishes in full in *The Humming Bird* the enormities of the McKinley tariff. He may have been a prohibitionist, for he takes a sly whack at alcohol.

Conservationists of wild life and bird protectionists will find interesting and instructive though perhaps not palatable information in his accounts of the plume, feather, and skin trade and auction sales, and in his defense thereof in the first volume (p. 1) in a serial article entitled "What is to be seen everywhere in London." The opposition to the use of bird skins on hats had brought about the use of dyed feather substitutes, which he found, on inspection of a dealer's stock, to be the toy cocottes of French children.

It appears that a severe battle has been fought lately against the wearing of beautiful humming birds, and bright birds in general, from sympathy to the poor Innocents. He [the enraged dealer] was right!! This was the true explanation of the appearance of these fancy birds. But, good gracious! Why have they made such poor representatives of Nature? With a little care and good-will they could have made something worth having. Then I would have nothing to say; but having had such a

shock when I was ejected from the above-named shop, where I asked the price of these toys, only fit for children, I must say a few words to the general public, and especially to the fair sex of both worlds, to explain that it will make very little difference to the wingy tribes, if Ladies condemn themselves in not wearing as adorns to their perfections the most brilliant jewels of Creation, such as Humming Birds, blue Creepers, bright Tanagers, wonderful Trogons, and Birds of Paradise, etc., etc., which enhances so harmoniously with their charms. I am a Naturalist of forty years' standing, and have travelled all over America from Cape Horn to California. I have explored thoroughly the United States, Mexico, Central America, part of South America, and what I can warrant is this. In the southern parts of the United States, Mexico, Central America, and in Nicaragua, I have seen thousands and thousands of specimens of various species of Herons, Spoonbills, Ducks, Geese, Tanagers, Sparrows, Swallows, Humming Birds, etc.

In San Andres Tuxtla (Mexico) I have been the witness of the arrival of the swallows (*Hirundo bicolor* Vieill.). They invaded a field of sugar-cane belonging to Don Francisco Carrère, a friend of mine, where I was staying at the time. Half an hour before sunset you could see them arrive from all parts of the horizon, meeting in one compact assemblage. . . . At the end of the month the plantations of sugar canes were nearly ruined. Another time when in Playa Vicente (Mexico) I saw another flock of birds passing over my head. They were Sparrow Hawks (*Cerchneis sparveria*). They did not stop in the locality; but their passage nearly lasted half an hour. How many thousands they were! Impossible to tell.

When residing in la Parada, State of Oaxaco (Mexico), I saw again immense numbers of Humming Birds (about ten distinct species). . . . They remained about two months, from October to the end of November. At that time flowers were to be seen in plenty everywhere; especially some myrtle trees, thistles, etc., etc. The boys had a net in two pieces, one and a half yard in circumference each, to which was attached a string about 20 yards long.

They opened one side of the net, the other part remaining on the ground or in the bush. Between the two parts they put flowers of the same kinds as usually visited by the birds. These were so abundant that scarcely five minutes passed without a humming bird coming inside the net to suck the flowers. Then the boy had only to pull the string which he kept in one hand, the two sides of the net joined together, and the bird was a prisoner.

They usually caught from 30 to 40 in the day, which they sold at a *cuartillo* (1½d. dozen) for eating. Being very fat, roasted, it is a repast which Lucullus himself would have enjoyed.

I could mention many other cases of the immense quantity of birds to be seen in America or elsewhere; but I think the above-mentioned cases are sufficient. To resume, then. What are about one million or two millions of birds sent annually to Europe; chiefly from Brazil, Trinidad, Colombia, South America, and from India, against such number of birds as Nature can boast of.

Even supposing that the fashion would continue for ever, it is my opinion that certain species of Birds are so common that it would take hundreds of years before exhausting them.

If Ladies don't wear feathers as ornaments from sympathy to the poor birds, to be consequent with themselves, they must not eat them neither, and they must not wear any furs for the same reason. Are they prepared to that? But as I said before, Nature is so prolific and such a good Nurse that Ladies can make their mind easy on that point, and continue to use the beautiful birds which harmonize so well with beauty, and refuse to wear such poor imitations of the real thing, as what is to be seen everywhere in London this year.

Besides, it is very probable that in refusing to wear them as ornaments, the result desired will not be obtained, and they would serve of pasture to the numerous birds of prey, and other animals which feast on them all the year round.

As far as my experience goes, the yearly Exportation of Bird Skins is as follows:

Colombia	200,000
Brazil and Trinidad	300,000

Mexico and Central America and South America.....	100,000
Japan	100,000
India	200,000
Africa	100,000
Europe	500,000
Total.....*	1,500,000

What is that! Nothing when you think of the 100,000,000 which are killed annually for eating purposes. However, I should suggest to Governments to prohibit partially the killing of birds in certain seasons and totally the destruction of Eggs; as also the killing of all species of Warblers, and some of the Passeres, which are quite indispensable to Agriculture.

Beneath the commercialism of this tirade against sentimentalism lurks a grim bit of hard sense that man may be justified in reaping some of the annual crop of bird life as he does that of some of the plant world, but he must at the same time conserve the breeding stock and protect it.

Boucard's main contributions to ornithology were his ornithological explorations in Mexico, Central and South America, and Panama, his superbly prepared skins of the humming birds of the American tropics, and his critical suggestions as to age and sex differences in these often puzzling materials which crept into the ever-increasing literature of the Trochilidae.

It is to be regretted that the statistical and commercial data pertaining to the skin and feather trade were not more fully made a matter of record by him. The advertising pages and reports of auction sales suggest the great possibilities of significant data in his hands. These data probably contained information as to sources and market supply which at the time involved both prices and competition and hence was not confided to irrevocable print. Could these data have been recorded fully and methodically, they would doubtless have afforded a mine of information on the geographical distribution of humming birds and relative frequency of species, and thus a partial picture of the then existing status of the evolution of this most highly specialized and widely diversified group of birds. The now existing suppression of the use of these skins in millinery and the widespread sentiment against such use make it physically impossible for the opportunity to occur again.

Berkeley, California, October 26, 1922.

OBSERVATIONS ON THE HABITS OF THE PRAIRIE FALCON

(WITH THREE PHOTOS)

By JOHN G. TYLER

A MOODY creature at all times, peevish and whimsical, the Prairie Falcon is a bird of extremes. One never knows just what to expect from this handsome falcon and the expected seldom happens. He may fairly dazzle us with a burst of speed as he comes in to his nest cliff from a long flight over the sage-covered ridges; but our admiration fades as we behold him sitting stoop-shouldered and motionless, for an hour at a time, on some low mound in a pasture, a picture of listless dejection.



Fig. 29. NESTING CLIFF OF PRAIRIE FALCON IN WESTERN FRESNO COUNTY, CALIFORNIA.

Photo by C. C. Laval.

A pair of ravens in a nest not fifty feet from the falcons' own pot hole may be tolerated for days at a time with no act to indicate that the falcons are even aware of the presence of their neighbors. Then a sudden outburst of anger, totally unprovoked so far as the human eye can detect, may mark the beginning of merciless and unceasing persecution. Indeed, they may even dispossess the ravens entirely and use the wool-lined nest while the falcon's own favorite pot hole or ledge goes untenanted.

Sometimes the canyons echo with her noisy cackling as the female falcon strikes again and again at the observer who approaches her nest cliff and yet, when, upon a return visit, we expect the same thrilling demonstration, she often flaps silently away with all the cramped awkwardness of a sparrow hawk just aroused from the duties of incubation.

With a roar of wings the male sweeps along a canyon wall, dashes into a

feeding flock of quail, snatches a victim and beats away like some giant swift; but when we hope to see this marvelous exhibition of flight repeated, we find him hopping around sparrow-like on the ground in some summer fallow field scrutinizing the bunches of stubble for a chance hidden meadowlark or Savannah sparrow.

A wounded falcon, or one who has changed her nesting site only to have the new location discovered, can give an exhibition of unmistakable anger which defies all attempt at description; but an overfed mid-October bird as it sits dreamily on a roadside fence post is usually too utterly lacking in spirit to attempt anything that requires more energy than a lazy flight to some more secluded perch.

The observations recorded herewith on the habits of the Prairie Falcon (*Falco mexicanus*) were all made in central California, either in the San Joaquin Valley or in the arid hills along the western rim of this valley. They cover a period of twenty-two seasons. No claim is here made to anything approaching completeness, and these notes, taken more or less at random, should be considered nothing more than an attempt to put on record a few facts which may be of assistance to any one who aspires to write a complete "life history" of this most interesting species.

FOOD

The literature that happens to be at hand as these notes are being prepared indicates that all authorities are well agreed that this falcon prefers feathered game as a diet. Bendire (1) stated that at Fort Walla Walla, Washington, the falcons fed principally on Brewer Blackbirds, but also on Mourning Doves, Western Meadowlarks, and domestic pigeons. He stated that poultry was seldom taken. Peabody (2) claims that this falcon is a terror to poultry. Fuertes (3) says "All about this point, which I took to be near the eyry, were strewn the feathers of quails and jays." Van Rossem (4) informs us that "At Mecca I had a quail snatched up within ten feet of me by one of these birds." Lamb (5) writing from Yermo says "One seen chasing a dove." Dawson (6) alone mentions mammals when he alleges that "thousands of destructive squirrels" are taken; and Bryant (7) makes a similar statement.

My personal observations have convinced me that small birds are preferred at all times and that only rarely is a mammal of any kind taken. From the time the falcons return to their nest cliffs in early spring through the egg laying and incubation periods the Gambel Sparrows (*Zonotrichia leucophrys gambeli*) are very abundant in the regions where falcons abound and a very heavy toll of these sparrows is taken. But, by the time the young falcons have appeared, these sparrow hosts have practically all migrated and the falcon turns his attention to Western Meadowlarks, Valley Quail, and Western Mourning Doves.

Late in the summer of 1916 I examined the base of a small cliff in which a brood of young falcons had been raised earlier in the season. There were great quantities of feathers of the four species of birds mentioned above, but the only mammalian remains in evidence was the foot of a small rabbit, and that may have been dropped by one of a pair of barn owls which nested in a deep crack in the cliff a few yards beyond the falcon's pot hole.

April 9, 1918, I came across a much-whitewashed pinnacle across a small canyon opposite a cliff in which a female falcon was incubating a set of eggs.

This point, which commanded a view, not only of the nest site, but of much of the surrounding country, was plentifully besprinkled with feathers of the Gambel Sparrow and for a space of several yards around the base, many of these feathers were adhering to the grass and bushes. To this point, no doubt, the male brought the results of his foraging expeditions and here he devoured his meals as he kept a watchful eye over the neighboring hills and canyons.

A nest containing an incomplete set of eggs was examined March 25, 1917. There was no evidence of food in the nest excepting two yellow breast feathers of a meadowlark.

On one occasion, while walking along a creek bed, a falcon, with a most disconcerting roar of wings, came down from a ridge above and dashed into a flock of sparrows. The sparrows dove headlong into the brush squeaking

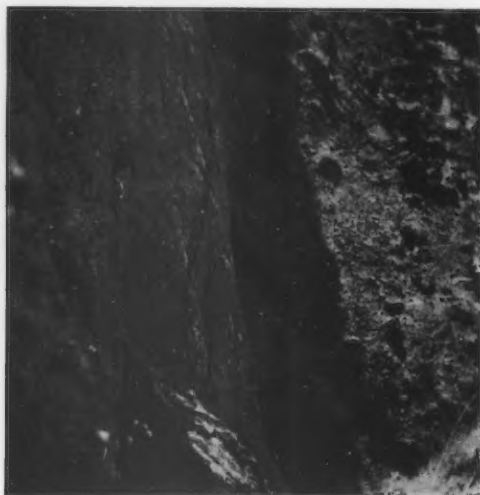


Fig. 30. EGGS OF PRAIRIE FALCON IN SITU,
ON SHELF OF DIRT BANK. WESTERN FRESNO
COUNTY; APRIL 5, 1919.

lustily as they went, but the falcon hurried away over the bank so fast that I could not determine whether or not he had been successful.

October 24, 1912, near Fresno I saw, at close range, a falcon which had been circling overhead suddenly fold his wings and swoop at a small white chicken in a barnyard. The chicken escaped by quickly diving under a clump of shrubbery.

A farmer living in Fresno County, many miles from the hills, once told me that a falcon made almost daily visits to his place and carried away toward the western hills many 'fryers' until a charge of shot put an end to such depredation.

Only once have I found satisfactory evidence that mammals are occasionally taken. April 8, 1918, a nest on which the female falcon was sitting closely or, perhaps, sleepily, on a rather heavily incubated set of eggs appeared to be

untenanted, since much shouting, clapping of hands, and the throwing of many stones against the bottom of the cliff failed to bring about any signs of occupancy. However, several large, blue flies could be seen buzzing around the entrance to the pot hole. This seemed to suggest the possible presence of a Turkey Vulture, so I climbed to the top of the cliff and threw over a coil of rope, whereupon a female falcon, apparently rudely aroused from slumber, flapped out of the hole. The presence of the flies was explained upon examining the nest, as the hind quarters of a ground squirrel, with the tail attached, were lying in the entrance. Evidently the incubating bird had not found this food particularly palatable, as she had eaten but little of it, although it must have been brought in by the male two or three days previous to our visit. For the fragrance of that nest cavity almost equaled that of the most approved Turkey Vulture cave.

That this species sometimes seeks its food in much more lowly manner than one would expect is evidenced by an incident which came to my notice on January 13, 1920, near Hughson, Stanislaus County. I was sitting in an automobile talking with an acquaintance when I noticed a Prairie Falcon on the ground in a large grain field. The bird was about 125 yards away, but was clearly visible. He was hopping over the ground and seemed to be carefully looking at the many small bunches of stubble which had accumulated as a result of the recent plowing of the field. The falcon was repeatedly seen to hop up onto small clumps of this straw, and scrutinize them carefully as if in search of any small bird which might be concealed therein. After satisfying itself that no prey was to be found, other straw heaps, in turn, were visited. Fully half an acre of ground was covered, but the falcon was not seen to capture anything. I had become convinced that I was watching a wounded bird, which, being incapable of flight, was endeavoring to find food by hunting on the ground instead of from the air. As I left the field, I ran toward the bird and was surprised to see it spring into the air and beat away on strong wings. As the falcon began to gain speed a jack rabbit sprang from its place of concealment, whereupon the falcon made a very swift and graceful swoop toward the rabbit but did not appear to endeavor to strike it.

VOICE

The voice of the Prairie Falcon is, on the whole, rather disappointing. A series of rapidly-repeated screeching, whistling, or cackling notes of varying tone and pitch constitute the usual calls, and these are most often heard in the spring months near the nesting cliffs. Sometimes these notes are given with considerable spirit, but often there is recognizable a sort of indifferent tone. In many cases I have been unable to detect any difference between the voices of the male and female of a pair of falcons, but some females, which may be old birds, have had harsh cackling voices, while a few males with which I have come in contact have had rather pleasing high-pitched whistling calls. While inspecting nests I have often found that one of the pair of birds will remain silent while the other makes all the noise, but this is not always the case. In the majority of instances where this has happened it has been the male that whistled while his mate kept silence. Occasionally, both birds of a pair will become enthused and the resultant din is most thrilling.

FLIGHT

Capable of really remarkable speed and with splendid mastery of the air,

this falcon nevertheless offers many disappointments to the observer. Somehow, the bird seldom seems to do his best. Laziness, perhaps, is the best explanation of this phenomenon. Generation after generation of falcons has found the task of securing sufficient food for their needs a ridiculously easy one. Since, therefore, only a minimum amount of energy need be expended in the chase, much of their spare time is spent in idleness. This is true especially in the fall and winter months. Nothing that has ever come within the range of my observation, however, has quite the thrill-producing quality of the flight of a Prairie Falcon really intent on 'getting somewhere.' Occasionally, too, a pair, while defending a set of incubated eggs, will give an exhibition which is well worth traveling miles to see.

Once, when I was examining a nest on a north-facing cliff, while the male sailed along in short flights cackling constantly, the female, facing a terrific wind, repeatedly came in silently, just skimming the top of the ridge and, suddenly, closing her wings and shooting upward for a distance of about fifty

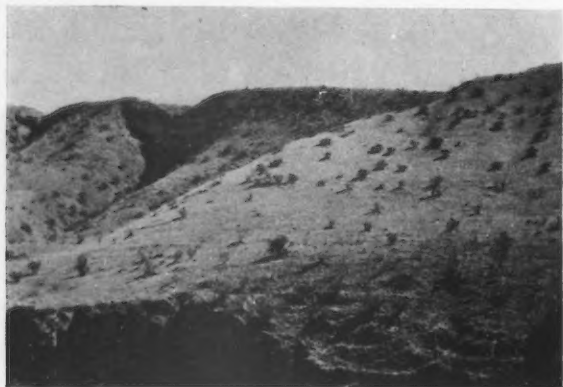


Fig. 31. HUNTING GROUNDS OF THE PRAIRIE FALCON, WITH NEST CLIFF IN THE BACKGROUND.

feet, she would hang motionless for a very brief interval, then turn completely over and dive with almost incredible speed at the climber on the cliff. She never quite struck but came uncomfortably near several times. It was a most exhilarating experience.

In order to see the wing work of this species at its best, it is necessary to be on hand during one of the terrific wind and dust storms which occasionally, about the time of the autumn equinox, sweep through the Altamont Pass and down the entire length of the San Joaquin Valley. At such times the falcon seems to ride the storm for the sheer pleasure of it. Often, he is accompanied by a pair of Marsh Hawks which, although not his equal, are nevertheless fit companions on such a tumbling 'joy ride,' and the falcon's mastery of the air seems even more complete when viewed in contrast to the weaker effort of the other species.

NESTING SITES AND NESTS

In the region where my observations have been made the north end of

the ridges breaks off abruptly into cliffs and for that reason most of the nests I have examined have had a northern exposure. A few have been on west-facing cliffs and one faced the east or northeast, but none has been on ledges with an outlook to the south. Of seventeen nests personally examined during the past few years nine have been in pot holes of various sizes, where the eggs rested on the gravel and small loose rocks which lined the cavity. Six sets were laid on the tops of nests built by ravens and these nests were utilized without any alterations whatever. In one case, the nest was newly built and freshly lined with wool, while the other five were in various stages of disrepair. One pair of falcons used, during three seasons, a hole in which a pair of ravens had evidently built a nest many years before; but successive families of young falcons had so plastered the entire cavity with guano that there remained only a shallow cavity where the eggs rested on a solid 'concrete' block which formed the hardest and most unyielding nest lining I have ever seen. One pair nested on a small rock shelf of a cliff exposed from above and on three sides to the full fury of the elements, while another pair selected a very similar situation on the fifty-foot dirt bank of a creek.

Taverner (8) describes nests of the Prairie Falcon found in Canada as being well lined, substantial structures. The necessity for such nests is probably brought about by the colder weather and heavier storms of that region. So far as the district in which my observations have been made is concerned, it may be said with full assurance that no nesting material of any kind is ever brought to the nest by the falcons and any such material found there can probably be traced to the work of some other species which at some former time occupied the site or was preparing to do so. The floors of some of the cavities are covered with a small quantity of gravel or small pieces of broken up rock upon which the eggs are laid in a very slight depression, but the floors of some of the pot holes are of too solid a formation to permit even the semblance of a nest. I seldom find feathers, bones, fur, or other refuse in the nests before the young appear. On account of the more or less exposed situations of many of the nests, the birds must suffer considerable inconvenience from the cold winds and driving rains which are not always entirely over by the time incubation commences.

EGGS

Data on twenty-one sets of eggs examined in this region by myself and other collectors between the dates of March 25 and April 24, of various years, show that five eggs constitute the usual number, but sets of four are not infrequent. Only undoubted first nests are included in this table, as all sets known or suspected to be second sets have been omitted. Furthermore, the nests mentioned below had not been previously disturbed during the season in which the record was made.

Date	SETS EXAMINED		Remarks
	Number of eggs	Incubation	
March 25, 1917	3	Fresh	Set incomplete
March 31, 1915	4	Small embryos	
April 1, 1915	5	Small embryos	
April 1, 1920	5	Begun	
April 1, 1920	4	Fresh	Probably incomplete
April 2, 1915	4	Slight	
April 2, 1915	5	Slight	
April 5, 1919	5	Small embryos	
April 5, 1919	5	Slight	
April 6, 1922	5	Begun	
April 7, 1917	5	Nearly fresh	
April 8, 1917	5	Small embryos	
April 8, 1918	5	About half	
April 8, 1918	5	Slight	
April 8, 1918	3	Considerable	Full set
April 9, 1917	4	Half-incubated	
April 9, 1917	4	Small embryos	
April 10, 1917	5	Half	
April 13, 1921	3	Not noticeable	Possibly incomplete
April 15, 1922	4	Begun	
April 17, 1921	5	Half	
April 24, 1920	5	Large embryos	

The set of three taken April 8, 1918, was unquestionably complete as the eggs were considerably incubated. But, knowing the habits of this very eccentric pair of birds, I am inclined to believe they may have begun a set in some other location and deserted it after one or two eggs had been laid. This pair of birds evidently left the locality in 1920, or perhaps the female was killed while on a winter foraging expedition out in the valley, as a visit to the nest on April 13, 1921, revealed an entirely different bird with a strange voice and none of the spirit of the former tenant. There were only three eggs and these were not noticeably incubated although the female was in the cavity and seemed very reluctant to leave. The eggs were of a totally different type and unlike any others I have seen, being very much elongated and very boldly blotched with an unusual type of markings.

The eggs from any one pair of birds bear a close resemblance from year to year and it is always possible to tell, by the eggs alone, when a new female takes possession of a nest.

I have never made a practice of taking second sets, but I have determined that a second set is nearly always laid within a period of from twenty to twenty-five days after the first set has been removed. Usually the same nest is used, although sometimes the birds move to another site which, as a rule, is in the same cliff or in one not far away. Second sets almost invariably consist of the same number of eggs as first sets. Undisturbed birds raise but one brood of young each season. Moreover, I am inclined to believe that certain pairs occasionally pass a season without nesting, as I have, on two different occasions, found both birds present at a nest site, yet their actions did not indicate that they were nesting and on subsequent visits they showed no active interest in the neighborhood.

Climbing to nests of this falcon is splendid sport, but an element of danger is always present. Falling rocks are always a source of trouble and in those dry, rocky gorges, I have found rattlesnakes present far too often. The fal-

con's handsome eggs, however, have made her famous. Yet, if this species laid unmarked eggs in stick nests built in the willow thickets out in the valley, it would attract no more attention than the humble Cooper Hawk. What is there about a visit to the haunts of the Prairie Falcon that is so alluring? What is it that impels a bird-lover to return year after year to the same dry washes and the same rough, treeless ridges? These questions are best answered in the language of my companion on one of my trips. It was a warm afternoon and we had been tramping steadily from a far-flung spur of a certain range of hills. As we neared the crest of a high ridge we paused to gaze silently out into the great sun-swept valley where a distant town shimmered faintly in the afternoon sunlight. Picking up his coil of rope preparatory to resuming the climb, my companion turned to me and said, "Attaboy, Tyler; this is the life."

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THE BOY WHO HUNTS*

By ROLAND C. ROSS

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TODAY the modern boy cannot go gunning as did his father. Sentiment is against it, game is scarce, and laws prevent him. Yet boys will be boys, and hunt they must. Our problem is to divert this inbred love of the chase along constructive lines and not to destroy his heritage.

Frowning upon bird-killing or forbidding sling-shots will not change the desire. If you take anything at all from the boy you must give him something better in its place, else it is not a fair trade and he will long for the flesh-pots of Egypt. Sentiment loses its charm when the hunt begins. Aesthetic training suffices very well with small children, but the boys soon outgrow it. The boy is a hunter and we may as well accept the fact.

This instinct to hunt the living thing I have learned to utilize in teaching nature to children. It is only recently that I have become aware that parents, teachers, and bird-lovers are still trying to deter young hunters by negations

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or entreaties. Because of this I venture to relate my experiences in dealing with the problem, and the method which I follow. My work has been in direct contact with children for a number of years. My records show 1958 children on field trips three years ago; the other years average about the same.

As a boy I walked the woods alone. Companions were too often noisy and uninterested in the ways of nature, and so I soon learned the value of quietness if I expected to 'sit in' on the family affairs of wild folk. Later I learned that motion was even more of a 'give-away' than sound. Then one day I found myself close to a woodchuck and, being unseen, I 'froze.' The thought came to try an approach as I was already so dangerously near that I must soon be discovered. Bolt upright, inch by inch, I stepped nearer, until, when the 'chuck' did vanish, I was so close that I had the thrill of a lifetime. His attitude, as he alternately eyed my approach and nibbled the young wheat, is still a vivid picture.

From this time on I stalked everything that was stalkable, bird, beast, and insect, and found my joy in outwitting wild life at its own game. The pride that comes from the victory of wit and keen sense beclouds the paltry trophy of lifeless flesh that is brought down by the gun. The man who, all unsensed, works his way past the keen guards of wild animals, and uncovers the secrets of these secret folk, is ten times a hunter, for he has the game in his power; their secrets are his.

Briefly then the method is this: The group of pupils and I meet and after some talk they express an interest in stalking birds or animals. Before we start it is understood that absolute quiet must obtain when called for, that movements are to be made *en masse* and *with* the leader. Near at hand we find our gopher, squirrel, or bird, and plan our course of action. Taking note of wind, sun, and contour of the land, our path is laid out, always in a line straight to the creature. With the sun at our backs we have the advantage of the light.

When the approach is begun every eye is upon the prey and from start to finish glances to either side are absolutely taboo. Moreover, no scarfs or coat-tails are left free to fly in the wind, and all hands are kept quiet in pockets or behind the back. During the approach warnings are given against any lateral motion or sidestepping, and all are urged to move *at* the object of the hunt. As we near the bird our steps are shortened until we barely advance two inches a step, and if we have success and come exceedingly close our movements are so slight as to become a burden. If the bird goes up and away, we try again, and very seldom do we fail of an approach so close that the children are fascinated.

If there is time, the leader stalks a bird, and then each child is given a chance to stalk his own. The group works at a great disadvantage, but the rules are the same for all, whether one or a dozen. Motion toward the object: steady motion without jerks; slow motion; plenty of pauses at times when the creature becomes too attentive; and last and foremost, PATIENCE.

What are the results? Generally, a worried, pestered time for all wild creatures in the locality. Later, if the effort is not followed up, the experience becomes but a pleasant memory in the minds of most of the children. A few adopt the idea and it shapes their attitude toward game and living things, so that years after we find them making daily observations of natural things

and entering the secret places for themselves. If the work is followed up with other trips and with pictures, books, and talks, most of them soon have their own tales to tell of vital experiences gained by stalking.

One group of 'bad' boys had little interest in my proposed kind of hunting, but after seeing the successful stalking of a gopher they needed holding in. When the thirty minute period was over, every boy had had his chance to worm over the ground and approach a wary gopher as he gathered his clover. There were several gophers harvesting or throwing up dirt in the vacant lot we visited, and most of the boys were able to get within arm's length of a feeding, busy animal. I find that directions may be given in a low voice with safety and find, too, that they are needful when a boy reaches the critical place, close to the creature.

Occasionally we pick up an animal or bird by a sudden grab. The children always are willing to free it in a moment. One girl, after many stalks, came up behind a billy owl and caught it, but his claws tore her hands rather severely and she lost her bird.

Stalking does not encourage 'killers.' A stone or a gun is much easier. The boys realize that the stalk gives the animal every advantage, and yet they can beat him, outwit him, at his own game. It takes more nerve and skill than mere gunning. As we talk it over they begin to see that it was the possession of this skill, and not their weapon, that makes the hunters of old, their heroes. For, after all, it is the game we play, the hunt, the chase, that brings the thrill. A carcass *ends* the sport.

For the growing, developing boy, I like this game. Once well started the 'hunt in him' carries it on. No preaching is necessary; he likes living things as well as you. And, lastly, it is but the beginning of good things, and leads him on to the next lesson of '*waiting* in the wilderness.'

Los Angeles, California, February 13, 1923.

A LETTER FROM T. M. BREWER TO OSBERT SALVIN

By CASEY A. WOOD

D R. Thomas Mayo Brewer was born in Boston over a hundred years ago, and died, in his native city, at the age of 66, on January 23, 1880. Although he was essentially a New Englander, he was always interested in the fauna of the Pacific Coast—an interest reflected in the christening of the Brewer Blackbird and the Brewer Sparrow. This fact justifies, perhaps, the publication of a letter from him that came recently into the possession of the writer.

It must not be forgotten that despite Brewer's immersion in the practice of medicine and his subsequent political, editorial, commercial, and book-publishing activities, ornithology, and in particular oölogy, always occupied a prominent place in his life work. It is necessary here only to refer to his papers in the Proceedings of the Boston Society of Natural History, to his admirable (1840) edition of Wilson's American Ornithology, his own North American Ornithology, and to his large share in the uncompleted History of North American Birds to show the amount and quality of his contributions to zoology.

Audubon, Nuttall, Coues, the elder Selater, Salvin, and many another 'Father' of American ornithology were among his intimate friends and contemporaries. The first-named frequently acknowledged the help he received from his young friend, Brewer, in the preparation of his monumental work on North American Birds. "A friend in our cavalry" is, of course, Captain (later Major) Bendire, with whom Brewer long maintained a considerable correspondence. It will be remembered that it was Dr. Brewer who compiled, from these letters, for the Proceedings of the Boston Society of Natural History, vol. 18, pp. 153-168, Bendire's "Notes on the Birds of Camp Harney." This intimacy between the two men however, was not fated to endure. They had a serious disagreement (see Coues, in *The Osprey*, 1, 1896, p. 113) due, no doubt, to the contact—flint upon steel—of a bumptious, aggressive but super-sensitive German soldier with a frank but rather tactless and narrow-minded Bostonian. Nobody knows the merits—if, indeed, it could truthfully be said to have had any—of the quarrel; but it was eventually patched up by a common friend, Professor Baird, who possessed all the polished virtues that both the other B's lacked. He, as Coues says, not only smoothed the ruffled plumes of the doughty German captain, but induced him to present his famous gathering of birds' eggs to the National Museum, there to be the nucleus of one of the finest collections in existence. Even among hard-boiled oölogists a teaspoonful of honey, as says the Spaniard, wisely spread, will catch more flies than a barrel of vinegar!

Here is the letter:

223 Beacon St., Boston, Jan 9th, 1877. My dear Sir;—Your kind favor of the 19th ult. reached me only last evening. You will notice by the address above that I now have a home of my own once more, in which I have been comfortably settled two months today. I have had a new cabinet made and am in the midst of rearranging my collections. It begins to look as if I were never to get through with them, as small accessions from Oregon, South-West Texas and other places have come, from time to time, to add to the confusion.

I am very glad you have received such a very fine addition to your already mag-

nificent collection. Have you one of the Smithsonian catalogues in which the birds of North America are given with a number corresponding to each specific name? If not I will send you one; but if you have, will you give me a list, by numbers, of your deficiencies? For instance, if you have no egg of *Cathartes aura*, write 1 in the list—if none of *Accipiter Cooperi*, write 15—if none of *Chaetura pelagica*, write 109, and so on. In this way I can know what you lack, and when I can supply it I will be glad to do so.

I inclose my photo. taken two years ago. Poor as it is, it is the least bad of any I have ever had taken.

I am glad the acorns reached you in comparative safety after their long wanderings to Washington and back. I hope some of each kind may retain enough vitality to produce trees for your park.

We have been having a regular old-fashioned winter. The last ten days of November, the whole of December and so far in January we have had snow storm after storm, and very severe weather. Days in which the thermometer indicated higher than 20° or 25° have been exceptional—often not above 15° at noon, and a number of mornings at zero, and yet you are some ten or twelve degrees farther north of us!

Cannot you be induced to write a paper on parasitic birds? You have so much material at hand in your own collection, you could make it very striking and novel. I have three eggs of that wonderful *Molothrus bonariensis* (Gmelin) which lays round, white eggs in a parrot's nest, smaller ones thickly spotted with red dots in a sparrow's nest, oblong purple and brown blotched eggs in a thrush's—and so on. I am not a bit of a Darwinian but such facts as these are beyond my ken. If you have not the eggs of this *Molothrus* but will write a paper on this general class, I will send you a colored drawing of the three greatest differences in the eggs of this species. You can prepare a paper so much more complete than any one else.

I will send you with this two skins (♂ and ♀) of *Leucosticte littoralis*. Our lumpers call it *L. tephrocotis*, variety *littoralis*, but as these same gentlemen insist that there is no perceptible difference between the sexes, one sees that they may blunder and blend in one two distinct species. I want your opinion as to the differences of the sexes in this case. I shall mark their sexes, but inclose in this their labels, as it is illegal to send them by mail other than by letter.

These birds are very rare, and only, so far, known to occur in winter among our mountains. These are from Oregon, near Camp Harney, in the eastern part of the State, given me by a friend in our cavalry.

Yours very sincerely,

T. M. BREWER.

At first glance the present writer thought the preceding (which was without complete superscription) might have been written to the elder Selater, but the internal evidence points decidedly to Osbert Salvin. Moreover, Mr. W. L. Selater, to whom the original was shown, agrees that it was not addressed to his father but to Salvin. It will be noticed, *inter alia*, that Brewer occasionally uses the capital initial (as in *Accipiter Cooperi*) for the specific adjective of a systematic name when the former is derived from a proper noun.

Chicago, Illinois, March 10, 1923.

NOTES ON BIRDS IN SOUTHWEST SASKATCHEWAN

By L. B. POTTER

THE following notes were all taken at or in the near vicinity of my ranch in the valley of the Frenchman River five miles west of Eastend.

During the winter of 1921-22 a considerable number of rosy finches (*Leucosticte tephrocotis*) were seen on this ranch and at other points in the valley. I saw the first, a male, on November 27; it was taken and sent to the Provincial Museum at Regina. On December 1 I saw another male bird feeding in the stackyard in company with a flock of redpolls. On January 18 two more were taken out of a flock of about thirty. On March 18 we secured a nice pair in our stackyard which we also sent to Regina. All the specimens were *tephrocotis* and are probably the first to be actually taken in Saskatchewan.

On June 6, 1922, my brother shot a Western Lark Sparrow (*Chondestes grammacus strigatus*) close by the buildings. It first attracted our attention by its singing and was in full breeding condition, so that presumably there was a nest not far away. A few days later I heard another lark sparrow singing across the river. On June 16, while mending a fence about a mile from the river in the side hills I saw yet another of these birds amongst the sagebrush. I was unable to search for a possible nest at the moment, and next day there was no sign of the bird. I have noticed the lark sparrow in previous years, nearly always around the ranch buildings, and only for a few days from about the middle of May. This is the first year that I have seen the bird so late on in the season and evidently breeding here. There appears to be no record of its nesting farther north, and I believe our specimen of June 6 is the first secured in this province.

On July 7 of the same year I discovered a pair of Yellow-breasted Chats (*Icteria virens*) in a willow thicket close by the river. The peculiar squeaks and whistles were quite strange to me, and it was only by taking my seat on the ground and waiting patiently for nearly an hour that I was enabled to get a view of the two birds. The male was the shyer and appeared only for a moment. The female was bolder and came several times almost within arm's length. July is a busy time of year, and I had to leave, but next day I came again to the same spot and soon had the hen bird round me again. A heavy thunderstorm was threatening, and I fled to escape a drenching, nor did I have the opportunity to make another visit to the place, which was over a mile from home. But doubtless there was a nest with young concealed there.

On July 16, 1922, I had another surprise, finding a family of Eastern Bluebirds (*Sialia sialis*). My attention was first attracted by the male parent seated on the telegraph wire over the railway which passes up this valley. A moment later I watched it fly down to the fence to feed a young bird. Farther on I saw five others. The bluebirds must have raised their brood in a flicker hole in one of the telegraph posts. Mr. C. W. Nash of Toronto tells me he remembers the bluebird appearing in Manitoba for the first time about 1883; now I believe it is not uncommon in the eastern part of this province. But this is my first acquaintance during twenty years in the valley. We have the Mountain Bluebird (*Sialia currucoides*) in abundance, though I can recollect

the time when it was quite scarce, the increase having taken place during the last twelve years or so. It is quite possible that the Eastern Bluebird will be a regular summer visitor in the near future. This particular family frequented the ranch buildings during the fall and were seen last on October 12:

It is gratifying to be able to record a slight increase in numbers of the Sage Grouse (*Centrocercus urophasianus*) which not so long ago seemed to be just about extinct. In 1914, when this railway was first built, the grouse disappeared, and I saw no more till 1920, though an odd bird or two was reported from time to time. During the winter of 1921-22 a band of eight or nine appeared in our pasture, and last December I saw twenty-three together. On this last occasion they were all bunched close together on a corner of my summer fallow, and all one could see at a distance of 200 yards was a number of black patches; these patches were the breast feathers of the Sage Grouse, the rest of their plumage matching exactly with the soil on which they were crouching.

Gower Ranch, Eastend, Saskatchewan, March 5, 1923.

THE MIGRATION OF THE KING EIDER AT SYNUK, ALASKA

(WITH TWO PHOTOS)

By GRACE A. HILL

I N April 10, 1915, the King Eider Ducks (*Somateria spectabilis*) began to pass Synuk, an Eskimo village some thirty miles up the coast from Nome, Alaska. Their flight was the most spectacular event in the migration of the birds that I witnessed. It was impressive not only because of the vast numbers (one flock, consisting of several long 'ropes,' following another so closely as to make an almost constant procession, for hours at a time, during the first week or ten days of their flight), but also because at that time there had been no real break in the winter, and it seemed the birds must starve in the snow-covered, ice-locked land into which they were so eagerly pressing. By the first of May the migration had practically ceased. On May 5, however, a native came in with a killing, which was the last I saw of the King Eider, that season.

These birds followed the same course as closely as though the first flock had left a beaten trail in the air. This 'highway' was over the ice, parallel with the shore, and so low as to be within easy gunshot. The natives killed them in large numbers for food, both for themselves and their dogs.

I regret that I did not make a careful observation of the King Eiders in their migration the preceding fall. At least there was no spectacular procession. Small flocks drifted by, flying low, but so far out to sea that there would have been no way of knowing them but for the native hunters. The Eskimos returned from their summer fishing camps during the last days of

September. From then until about the middle of October these ducks figured prominently in the village larder.

Other flocks of the ducks and of geese of the fall migration, that I observed at Synuk, including the Mallard and the Canada Goose, approached the



Fig. 32. SLEDGE ISLAND AND BERING SEA FROM THE BEACH AT SYNUK VILLAGE, ALASKA, JUNE 3, 1915. THE PROCESSIONAL SPRING MIGRATION OF THE KING EIDER WAS OVER A ZONE BETWEEN THE ISLAND AND THE SHORE. THE ISLAND IS ALMOST DUE SOUTH FROM THE VILLAGE.

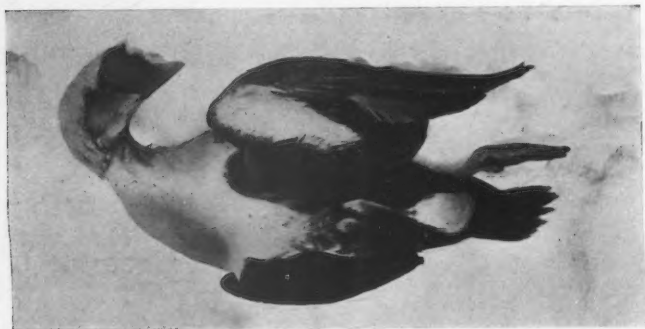


Fig. 33. KING EIDER SHOT IN THE MIGRATORY FLIGHT PAST SYNUK VILLAGE, ALASKA, MAY 5, 1915.

village from the north, coming over the land, as though they had cut across the western portion of the Seward Peninsula. They passed over the village, flying high, and went out across Sledge Island, over the sea to the south. The course the King Eiders took in passing the village was southeast.

Berkeley, California, November 10, 1922.

BIRD RECORDS FROM CRAIG, ALASKA

By G. WILLETT

Aechmophorus occidentalis. Western Grebe. Specimen taken at Craig, October 7, 1921.

Larus californicus. California Gull. A bird of this species was found dead on the beach September 21, 1921. It had been partially eaten by a hawk or an eagle. The head and one wing were preserved.

Lophodytes cucullatus. Hooded Merganser. Three females or immature males observed at close range, November 24, 1922. While I was hidden on the beach shortly after daylight on the above date awaiting an expected flight of geese, these three birds swam around in shallow water near shore catching small fish. At times they approached within fifteen feet of my hiding place.

Anser albifrons albifrons. White-fronted Goose. A late fall record for this locality is of a pair of adult birds shot November 8, 1922. The male was preserved.

Fulica americana. Coot. Two specimens taken near Craig docks late in the fall of 1921: a female, November 26, and a male, December 25.

Tringa canutus. Knot. Female taken May 13, 1922. Though this bird probably passes Craig in considerable numbers, it would seem that it rarely stops, as the taking of this bird constitutes the only record secured during several years spent in the locality. The bird was on a small rocky islet in company with Surf Birds (*Aphriza virgata*).

Sturnella neglecta. Western Meadowlark. On October 21, 1921, while walking along the shore on Fish Egg Island, near Craig, the writer flushed a meadowlark from the beach grass. The bird was very wild and, though shot at at long range several times, was not then secured. Upon returning to the same locality the following morning (October 22), the bird was again flushed and was finally shot from a spruce tree to which it had flown. It is typical of the western species.

Passerculus sandwichensis savanna. Savannah Sparrow. This species apparently occurs later in the fall than any other migrant land bird. It is usually rather common throughout September and October and is occasional in early November. The latest record is of a bird seen November 11, 1921. The latest seen the past fall (1922) was on November 5. The earliest fall record is of several seen on Dall Island, August 28, 1921.

Passerella iliaca townsendi. Townsend Fox Sparrow. In a previous note (Condor, xxiii, 1921, pp. 36-37), the writer recorded this bird as occurring commonly at Craig during the winter of 1919-20, thus modifying considerably Swarth's definition of its winter range (Univ. Calif. Publ. Zool., xxi, 1920, pp. 75-224). Later events have shown that it must not be assumed that the species winters regularly in the region; in fact, it may prove that its common occurrence during the winter of 1919-20 must be considered unusual.

The winter of 1920-21 was spent by the writer at Wrangell, in which locality no fox sparrows were noted between October 17, 1920, and April 13, 1921. In May, 1921, the writer returned to Craig and has resided there since that time. During the following summer several pairs of Townsend Fox Sparrows nested in brush thickets around the town. They were common until about August 15 and rare thereafter until September 17, on which date they were common for one day only. They were not seen later in the fall and were apparently entirely absent during the following winter. In the spring of 1922 the first noted was a single bird on April 22; two or three were seen the following day, they became quite common on April 25, and remained so throughout the past summer. They were frequently noted in Craig until September 22, several were found near the summit of a nearby mountain, September 30, and two or three were seen in Craig, October 27. They have not been further noted this fall and at the present writing (November 29) are apparently absent from the region. These records would indicate that the occurrence of the Townsend Fox Sparrow in southeastern Alaska in winter is at least irregular.

It is interesting to note that practically the same facts apply to the occurrence here of another bird, the Varied Thrush (*Ixoreus naevius*). This species, which breeds

in various parts of this section, wintered here abundantly during the winter of 1919-20, but has not been seen since during the winter months.

The writer has been unable to connect the occurrence of these two birds during the winter of 1919-20 with prevailing weather conditions. During that winter the cold was as severe as during any of those that have followed it. The present fall is the mildest known in the vicinity for many years, very little frost having appeared, and streams and lakes being entirely free from ice at time of this writing. Still these two birds have apparently been gone from the region for a month or more.

Lanius borealis. Northern Shrike. A male taken on Fish Egg Island November 30, 1921, is the only example of the species seen in this locality to date.

Craig, Alaska, November 29, 1922.

FROM FIELD AND STUDY

A Winter Record of the Spotted Sandpiper for the Olympia Peninsula.—On January 31, 1923, while walking along a rocky beach of the Straits of Juan de Fuca, about nine miles west of Port Angeles, Washington, I was surprised to flush a Spotted Sandpiper (*Actitis macularia*). The bird flew out over the water and down the beach a short distance where it alighted. I followed it back and forth over the rocky beach for some time, getting within a few feet of it on several occasions. On rounding a point another bird was found. On the return trip an hour or so later both birds were again noted and watched for some time. While I know this species has occasionally been taken on the Oregon and Washington coast in winter, this is my first record.—IRA N. GABRIELSON, *Portland, Oregon, March 15, 1923.*

Predatory Brewer Blackbirds.—Several years ago, in eastern Oregon, I encountered my first murderous blackbird. My attention was attracted to a pair of Brewer Sparrows that were frantically fluttering about a Brewer Blackbird (*Euphagus cyanocephalus*) that seemed to be trying to hide from the view of the world some object that was being held between the feet and hidden by the drooping wings. At intervals, when the sparrows permitted, vigorous blows were delivered at the victim, which seemed to be still struggling.

I forced the blackbird to relinquish its prey, which I found to be a fledgling sparrow, seemingly just from the nest, that had been all but brained by its assailant.

The second case of murderous assault was witnessed the past summer in Balboa Park, San Diego. A Brewer Blackbird was seen pounding a suspicious object, as described in the first instance, which when identified was found to be a young Green-backed Goldfinch only a week, or perhaps less, from the egg. The bird must have been taken from the nest, as it was far too small to have reached the rim and fallen over.

The murderer in the first instance abandoned its prey on my approach, but the second refused to give up what it seemed to consider its lawful dinner and several times flew with it to a distance of fifty feet, where it renewed its efforts to reduce the nestling to a size that would permit of its being swallowed.—A. W. ANTHONY, *San Diego, California, March 19, 1923.*

The Clark Nutcracker at Pacific Grove, California.—A Clark Nutcracker (*Nucifraga columbiana*) appeared in our dooryard on February 2, 1923, and another or the same bird was observed a few blocks distant on the 8th. We hope this may be the vanguard of a wave such as visited the Monterey region in 1919-1920.—A. B. and W. K. FISHER, *Pacific Grove, California, February 8, 1923.*

Random Notes from the Southern Border of California.—Mountain Plover. *Podiceps montanus*. None observed in the Chino region, but four seen in an alfalfa field near Brawley, Imperial County, January 2, 1923.

Ruddy Turnstone. *Arenaria interpres morinella*. One feeding with Black-bellied Plover on a mud flat in False Bay, San Diego, December 29, 1922.

Ferruginous Rough-legged Hawk. *Archibuteo ferrugineus*. An adult in the normal plumage near Brawley, Imperial County, January 2, 1923.

Western Vesper Sparrow. *Poocetes gramineus confinis*. Common near El Centro and Calexico, January 2, 1923. Subspecies not determined.

Lark Bunting. *Calamospiza melanocorys*. A flock of about twenty near Westmoreland, Imperial County, January 3, 1923. This occurrence in connection with those noted at Thermal, January 1, 1922, seems to indicate that some Lark Buntings winter in this locality. There has been no rain in Imperial County this year, and there was no evidence of any migration.—RALPH HOFFMANN, Carpinteria, California, January 6, 1923.

Lewis Woodpecker in Eastern Oklahoma.—On December 24, 1922, while on the golf course of the Oakhurst Country Club, eight miles southwest of Tulsa, Oklahoma, I noticed a large black woodpecker flying out over one of the fairways and returning to a large oak after each flight. I at once determined that it was a Lewis Woodpecker (*Asyndesmus lewisi*) and mentally put it down as a new migrant for my local list. By the time I had made a complete circuit of the course and was near the same spot again, the occurrence of the bird had been given more thought and a decision reached that it was of more than local importance. So I delayed the game a little and got under the favorite observation tree, about 25 feet from the bird itself. The peculiar reddish underparts, the gray collar, the black wings and upper parts, and the comparatively larger size than that of the Red-headed Woodpeckers with which it was loosely associating rendered identification absolutely certain—the species being one with which I am familiar through both observing and collecting them in California. It was quite out of the question to obtain a gun and collect this bird on the crowded golf course that day.

This record is not the easternmost for the species, because A. Wetmore has recorded the bird from near Lawrence, Kansas (Condor, xi, p. 208), which station is some forty minutes of longitude more easterly than my station, but the occurrence is a new one for eastern Oklahoma.—J. R. PEMBERTON, Tulsa, Oklahoma, January 1, 1923.

The White-winged Dove in Santa Barbara, California.—On November 8, 1922, while my wife and I were studying birds at Hope Ranch, Santa Barbara, a White-winged Dove (*Melopelia asiatica trudeaui*) flew across the road in front of us at a distance of not over twenty feet and alighted in a live oak a short distance from the road. We observed the bird for about fifteen minutes as it moved about the tree. He was not particularly shy, so we had an excellent view of him. We made a search for him the following day but did not find him again.

The weather for some days previous had been somewhat stormy, with strong winds from the southeast.

As far as we have been able to ascertain this is the first recorded occurrence for this locality.—HENRY E. PARMENTER, Santa Barbara, California, January 19, 1923.

Fishing Activities of the California Brown Pelican.—For the past few years I have been much interested in the fishing habits of the California Brown Pelican (*Pelecanus californicus*). So far as I have noticed, these birds always fish by diving. My impression is that they ordinarily dive when gliding at a height of thirty to fifty feet above the water; but I have seen them dive from greater heights, as well as from a position barely clear of the water. At either of these extremes, the dive is almost invariably hasty and awkward as though occasioned by an unexpected opportunity to catch fish.

After striking the water these pelicans always execute a half-turn so that they appear above the surface facing in the opposite direction from that in which they entered. I have never been able to see clearly, but it seems that this half-turn is due to a sidewise sweep of the head upon entering the water.

A few months ago I was much astonished one morning to see something like a yellowish toy balloon under the throat of a bird which dived near me. I had never seen any indication of much distention of the throat pouch before, and it was an instant before I realized that the balloon effect was due to extraordinary distention of that organ by water. Although I carefully watched many birds, I did not again see such an exhibit

until the morning of September 10, 1922, when a single bird dived three times at distances of about seventy-five to one hundred and fifty feet from me.

Twice out of the three times the pouch was very noticeably distended, though not so greatly as in the former case. While I could not see everything clearly in the instant of time available, I thought I could see a more direct sweep of the head forward and upward when the pouch was distended and a more direct sweep sidewise when it was not. No fish were caught at any of the three attempts. Failure to catch was very evident, because the bird did not assume the swallowing position.—W. E. ALLEN, *Scripps Institution for Biological Research, La Jolla, California, October 9, 1922.*

An Explanation of a Seeming Discrepancy¹.—My attention has been called to a seeming discrepancy between the descriptions given respectively by Dr. Joseph Grinnell and myself of the nesting of the Forked-tailed Petrel (*Oceanodroma furcata*) on St. Lazaria Island, Alaska, as quoted by Mr. Arthur C. Bent in his *Life Histories of North American Petrels and Pelicans and their Allies* (Bulletin 121, U. S. National Museum): Dr. Grinnell speaks of only one egg in a burrow of this species, while I mention the presence of more than one and note also the joint occupation of many burrows by two species of petrels, the Forked-tailed and the Leach Petrel (*O. leucorhoa*).

This apparent contradiction lies in the fact that we worked in different parts of St. Lazaria Island, in different associations. Dr. Grinnell speaks of being in the woods, where conditions apparently did not suit the Leach Petrel, while my work was done in open land only sparsely covered with bushes, where, in the loose soil, the two species frequently occupied the same burrow.

In 1897, the year after my visit to this island, M. A. Brace, a marine who had accompanied me at the time, sent me a box filled with petrel eggs of the two species, taken from St. Lazaria Island, with a letter in which he stated that he had not been particular about identifying the eggs by means of the parent birds, but that I could pick them out myself. The contents showed that the two species were breeding in the same burrow, and in the same spot as during my own visit.—JOSEPH MAILLIARD, *California Academy of Sciences, San Francisco, California, December 12, 1922.*

A Winter Record of the White-crowned Sparrow in Los Angeles.—On December 15, 1922, in an interval between showers, I observed in a partly leafless poplar tree, above the birds' bath in my garden, two birds which appeared to be *Zonotrichia leucophrys leucophrys*. The white stripe at the side of the head terminated at the eye, the black stripe above extended to the bill and filled in the loreal space, in complete accord with the description and with the illustration furnished by the United States Biological Survey.—MRS. G. H. SCHNEIDER, *Los Angeles, California, January 7, 1923.*

The Proportions of the Sexes in Collections of Bird Skins.—The question has often been asked, What is the average number of female birds in relation to the number of males in North American collections? To answer this I have examined the records of four collections, two made in Ontario and two in California. And I have taken two types of collector, one, the student learning his birds as he collected them; the other type, the sportsman who, after reaching the age of maturity, had begun the collecting of specimens seriously, for study. The result is given below.

<i>Sportsman California</i>			<i>Student California</i>		
Males	Females	Per cent	Males	Females	Per cent
314	211	67	217	117	54
<i>Sportsman Ontario</i>			<i>Student Ontario</i>		
Males	Females	Per cent	Males	Females	Per cent
352	174	50	320	153	50

The average of females collected in the case of the California sportsman is very high, and the four collectors have between them averaged about 54½ per cent of females to males. It would be interesting to know how this proportion compares with the proportionate number of the sexes in life.—J. H. FLEMING, *Toronto, Ontario, December 12, 1922.*

¹Contribution No. 204 from California Academy of Sciences.

Record of Semipalmated Sandpiper on Mount Rainier, Washington.—On September 9, 1919, following a day of heavy rain, a small sandpiper was noticed on the mud shores of a lakelet in St. Andrews Park, elevation 5000 feet, Mount Rainier, Washington. This bird was collected by Stanton Warburton, Jr., and prepared for the State College of Washington collection by William T. Shaw, of that institution. The skin was later sent to the Biological Survey, Washington, D. C., for determination, and pronounced *Ereunetes pusillus*, by Dr. H. C. Oberholser. It is now in the collection of the State College of Washington.

Only one bird of this species was seen, though two larger sandpipers, probably *Helodromas solitarius cinnamomeus*, were frightened from the same pond a short time before.—WILLIAM T. SHAW, *Pullman, Washington, February 10, 1923.*

Bird Notes from Arizona and California.—On July 19, 1922, three Wood Ibis (*Mycteria americana*) appeared on the Rillito, ten miles from Tucson, Arizona. Is it not likely that the three supposed Whooping Cranes seen by L. E. Wyman near Calipatria (Condor, xxiv, 1922, p. 182) were really of this species?

On May 7, 1922, while walking along the Santa Cruz River, twelve miles south of Tucson, Arizona, I was surprised by the helterskelter appearance from the bottom of an old ditch of a number of vultures, at least a dozen of which were Black Vultures (*Catharista urubu*). Near the same locality on May 13, 1922, a single Western Willet (*Catotrophorus semipalmatus inornatus*) was observed.

Those who have lately made the acquaintance of that most attractive bird, the California Pine Grosbeak (*Pinicola enucleator californica*), seem to have overlooked what is evidently one of its most important items of food during the nesting season and until late July, at least in the high Sierras. I refer to the winged seeds of the fir, which are gleaned from snow banks and elsewhere during the period mentioned, and which must constitute a large part, probably the major portion, of the nestlings' food. Later in the year I found them eating the buds of the tamarack pine.—H. H. KIMBALL, *Tucson, Arizona, February 28, 1923.*

Porphyrio edwardsi on the Pacific Coast.—My attention was recently called to a strange bird of the gallinule family which had been presented to the Natural History Museum of San Diego by a young man, who had captured the wanderer at Ensenada, Lower California, about 60 miles south of San Diego.

The specimen proved to be an adult Edwards Moorhen, *Porphyrio edwardsi*, a species confined to southern China and the Malay Peninsula. The bird was said to have flown against a window and so was in a somewhat dazed but uninjured condition. At the time it was received at the Museum it had been kept as a cage bird for a month or more. It therefore presented a somewhat worn appearance as to primaries. Whether this was its condition at the time it was taken, I am unable to say.

On December 23, 1922, a specimen was shot at Buena Vista Lake, Kern County, California, and is now in the collection of Mr. Donald Dickey, of Pasadena. Buena Vista Lake is some 300 miles north of Ensenada where the first-mentioned specimen was taken and the dates of capture are approximately the same.

As the species of the genus *Porphyrio* are birds of somewhat limited flight, it is hardly to be supposed that they reached our shores except as importations, and the limited data at hand would lead one to expect other records to follow. It is unlikely that the two specimens include all that have been introduced, as might be the conclusion had both been taken in the same swamp.

The Edwards Moorhen or Gallinule is somewhat similar in coloring to our native Purple Gallinule, with 'peacock blue' and purple neck, breast, and sides. It is about the size of our Coot, but with much longer legs, very long toes, without lobations, and a much heavier bill and frontal shield. The iris, bill, shield, and feet are a dull red.—A. W. ANTHONY, *Museum Natural History, San Diego, California, March 6, 1923.*

A Few Notes on Some Oregon Species of Shore Birds.—*Limosa fedoa*, Marbled Godwit. In recent years this bird has apparently become a rather rare migrant on the

Oregon coast, as few present day ornithologists have reported it. While on my vacation at Netarts Bay I found a flock of seven on September 12, 1922. These birds were sitting quietly along the edge of the water of a mud flat. They were very wild and difficult of approach, but I succeeded in collecting one before they got entirely out of reach.

Heteractitis incanus. Wandering Tattler. From my reading of Oregon literature I had somehow gained the impression that this bird was a somewhat rare species in Oregon. I have, however, found it in suitable locations on almost every visit that I have made to the coast district. I have seen this bird at the following places: Netarts, May 1, August 22, and November 19, 1921; Bar View, November 22, 1921; Cannon Beach, February 3, and April 27, 1922; and Seal Rocks, July 22, 1922. I have never noted more than one or two of the birds at a time, but they seem to be found on every rocky point suitable for their needs throughout a large part of the year.

Squatarola squatarola. Black-bellied Plover. On January 21, 1923, two of these birds were found on the beach at Newport. They were wild and difficult of approach, but one was finally secured. So far as I know this is the first winter record of this species for the Oregon coast.

Aphriza virgata. Surf-bird. I have observed this bird on four different occasions on the Oregon coast. My first record was on November 19, 1921, when a flock of about twenty-five was found on the rocks north of Netarts Bay. These birds were quite tame and flew about on the rocks without paying much attention to me. At Cannon Beach on February 3, 1922, four were noted and two more at the same place on April 27, 1922. On January 21, 1923, two were noted feeding about the rocks of the North Jetty at the entrance to Yaquina Bay. They were in company with two Black Turnstones at the time the observation was made.—IRA N. GABRIELSON, Portland, Oregon, March 15, 1923.

Abnormal Eggs of the Coot.—The following note is occasioned by Dr. Alexander Wetmore's article (Condor, xix, 1917, pp. 65, 66) in which he figures and describes an abnormal egg of the Coot (*Fulica americana*). Dr. Wetmore's deduction that the peculiar markings and color of the specimen were caused by abnormal conditions surround-

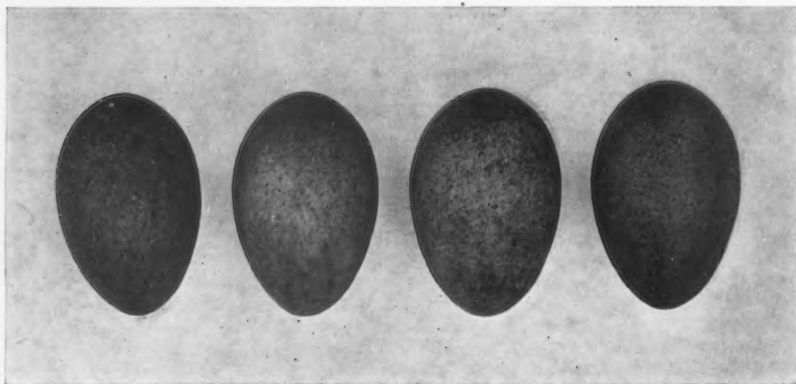


Fig. 34. ABNORMAL EGGS OF THE COOT.

ing the parent while the egg was in the oviduct may be correct in this instance, but in view of the following data it would seem better to consider the egg an example of a rare type sometimes laid by the species.

At Buena Vista Lake, California, on June 21, 1922, Mr. Ralph Hoffmann brought me an abnormal egg of this species, together with the information that there were three more of the same type in the nest. An immediate expedition was organized and the rest collected. Probably more would have been laid but the risk of having the

nest swamped by a sudden wind storm was too great to permit of taking any chances through delay. These four eggs are in general similar to the one described by Dr. Wetmore, save that the general color is uniform throughout. It varies a little in the individual specimens, ranging from avellaneous in the lightest specimen to between avellaneous and wood brown in the darkest. The accompanying cut shows the distribution of the spotting which varies from purplish gray to black. These eggs are the only departures from the normal which have been seen among the many hundreds of mudhens' eggs observed each year during the three summers of work on this lake.

The possibility that all four of these eggs are the result of an abnormal nervous or physical strain on the parent is so remote as to be negligible. While such a condition as that surrounding Dr. Wetmore's bird might possibly result in an extraordinary egg, it is extremely doubtful that more than one would be produced before laying was suppressed altogether.—A. J. VAN ROSSEM, *Pasadena, California, December 21, 1922.*

The Alice Thrush—a Correction.—It is with considerable chagrin that I have to report what can only be explained as a *lapsus calami* in my preliminary list of specimens taken by C. H. Young and Wm. Spreadborough at Brackendale, Lilloet, and McGillivray's Creek, British Columbia, between June 11 and September 12, 1916, in the Summary Report for the Geological Survey (Canada) for 1916, pp. 359-368. On this last page will be found under Alice's Thrush, *Hylocichla aliciae*, six specimens recorded as taken at Brackendale and Lilloet. This entry properly refers to *Hylocichla ustulata*; the subspecies was not determined, but there is not the slightest doubt of the incorrectness of the record as it stands.—P. A. TAVERNER, *Ottawa, Canada, February 26, 1923.*

EDITORIAL NOTES AND NEWS

It may not be amiss for American ornithologists to recall for a moment that "we", each and all of us, share in the ownership of the largest and most valuable collection of birds in the New World, namely, that contained in the Division of Birds, United States National Museum. More systematic work relating to America has been based on that collection than, perhaps, upon all the other American collections combined. We should, and doubtless most of us do, feel a just pride of ownership and achievement in these matters. Furthermore, all working ornithologists must feel a satisfaction in that a man of broad caliber is acting curator of our National collection—Dr. Charles W. Richmond, much of whose time and energy for years have been taken up with helping in the enterprises of others. Dr. Richmond's service to ornithology is enhanced by his great knowledge of the birds of the world and by his wonderful memory of the published literature in regard to them. His genial personality and his readiness to expend time in helping visitors who come to his department at Washington go to make one thankful that a man of his stamp is in executive charge of our National collection.

Messrs. Alexander Wetmore and Donald R. Dickey debarked from Honolulu on April 4 for two months exploration of the smaller islands of the North Pacific. The present

status of the famous bird colonies on Laysan Island will be looked into and efforts made to rid that island of the introduced rabbits, whose presence is inimical to the welfare of certain of the native species of birds. Studies of the birds will be aided by the movie camera in the expert hands of Mr. Dickey. We look forward to seeing the "dance of the albatrosses" vividly before us on the cinema screen before many months.

Mr. and Mrs. Chester Lamb are favorably located for a period of collecting at San Jose del Cabo, Lower California.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

FEBRUARY.—The regular meeting of the Northern Division of the Cooper Ornithological Club was held at the Museum of Vertebrate Zoology on February 22, 1923, at 8 o'clock. President Cooper was in the chair and the following members were present: Misses Beaman, Bennet, Burk, Clough, Culver, and Thomson; Mesdames Allen, Bamford, Delport, Mead, Reygadas, Schlesinger; Messrs. Bryant, Cooper, Dixon, Evermann, Farber, Gignoux, Miller, Storer, and Swarth. Visitors were Mrs. Farber, Mrs. Thomson and Mr. Koch.

The January minutes were read and approved, followed by the reading of the Southern Division minutes for the same month. Applications presented were as follows: Mr. Willard Ayres Eliot, 1011 Thurman St., Portland, Oregon; Mr. J. F. Haywood, Mather, Tuolumne County, Calif.; and Mr. Joseph J. Hill, 1945 Delaware St., Berkeley, all presented by Mr. Joseph Grinnell.

A letter from the Secretary of the Pacific Division of the American Association for the Advancement of Science, announcing plans for the annual meeting on September 17, 18, and 19, 1923, was read by the secretary. In accordance with the request included in the letter Mr. H. C. Bryant and Mr. Joseph Mailliard were appointed delegates to the meeting of the Affiliations Committee.

Mr. Joseph Dixon then gave a very entertaining and instructive talk on bird photography, illustrating it with lantern slides. Adjourned.—AMELIA S. ALLEN, *Secretary*.

SOUTHERN DIVISION

JANUARY.—Regular monthly meeting of the Southern Division, Cooper Ornithological Club, was held at the Southwest Museum at 8 P. M., January 23, 1923. Business was deferred until after the showing of Mr. Dickey's film, "Game Trails of the North Woods." This was appreciated by a hundred or more members and friends, who marvelled at the excellence of the pictures and the infinite patience required to secure them.

Minutes of December meeting were read and approved, and those of the Northern Division were read. Presentations for membership were as follows: Mrs. G. Maurice Crow, Glendora, by Miss Pratt; George H. McDaniel, 234 West Pratt St., Eureka, and Frank J. McCoy, Santa Maria, by W. Lee Chambers; Joseph W. Sefton, care Sefton Investment Co., San Diego, by Laurence Huey; Miss Elizabeth Dewes, 364 Whitehall Road, Morristown, Pa., by R. J. Middleton; Ernest D. Clabaugh, 2215 Grant St., Berkeley, by H. C. Bryant; Mrs. Myrtle K. Yost, 2831 No. Broadway, Los Angeles, by Miss Miller; and Joseph A. Manington, 1342 Detroit St., Los Angeles, by H. J. Lelande.

On motion of Dr. Miller, the committee appointed at the December meeting to draft resolutions on the death of Mr. Millard was empowered to present such resolutions to the family without further club action.

The committee on nominations presented the names of Pierce, Wyman and Little, for President, Vice-President and Secretary, respectively. Dr. Warmer moved that nominees be elected by acclamation. Carried. Nominees declared elected.

The resignation of H. A. Edwards was tendered by letter, and accepted. Adjourned.—L. E. WYMAN, *Secretary*.

FEBRUARY.—Regular monthly meeting of the Cooper Ornithological Club was called to order at the Southwest Museum by the new president, Wright M. Pierce, at 8:30 P. M., February 22, 1923. Those present: Mesdames Bicknell, Ellis, Falger, Fargo, Law, Mix, Schneider; Misses Burnell, Kennedy, Miller, Pratt, Potter; Messrs. Appleton, Barnes, Bishop, Chambers, Cookman, Comstock, Hanaford, Huey, Law, Little, Dr. Miller, Alden Miller, Pierce, Rich, Ross, Wyman. Visitors, Mesdames Appleton, Bishop, Chambers, Cookman, Miller, and Wyman.

Business was put aside until after a very interesting slide talk, "Still Movies of Birds," by Mr. C. G. Abbott. Pictures of the San Diego Natural History Museum exhibit were also shown and explained, as well as the aim of that institution.

Minutes of the January meeting were read and approved. No minutes from the Northern Division at hand. New names proposed for membership as follows: Marvin H. Creager, 634 Alameda St., Burbank, by Alfred Cookman; Thomas A. English, 2001 Haste St., Berkeley, by H. C. Bryant; Horace Arthur Fuller, 430 San Rafael Ave., Pasadena, by Donald R. Dickey; Fred H. W. Lueders, 516 E. Main St., Compton, by Sidney Peyton.

Mr. Law again called attention to the Federal Shooting Ground Act and to a wording of the minutes of the September, 1922, meeting, which might convey the impression that the Southern Division was opposed to the measure. He then moved, with second by Dr. Miller, to reaffirm the resolution passed at the August, 1922, meeting, recording unqualified support of the measure. Unanimously passed.

Under new business, Mr. Law was appointed chairman of the Bird Banding Chapter of the Southern Division. He informed the members that he had U. S. Biological Survey application cards for bands, so that those interested in bird banding may get prompt action. Adjourned.—LUTHER LITTLE, *Secretary*.

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For Sale, Exchange and Want Column.—Any Cooper Club member is entitled to one advertising notice in each issue free. Notices of over ten lines will be charged for at the rate of 15 cents per line. For this department, address W. LEE CHAMBERS, *Altadena, Los Angeles County, California.*

COSTA RICA BIRD SKINS—There is a growing interest being shown by institutions and individuals in the extralimital species of the genera enumerated in the A. O. U. *Check-List*. I can furnish many of the Costa Rican forms.—AUSTIN SMITH, *Apartado 412, San Jose, Costa Rica.*

FOR SALE—Report of the Harriman Alaska Expedition, ten volumes (lacking vol. 2, nos. 6 and 7), \$20.00.—THE FREE LIBRARY, *Fayetteville, New York.*

WANTED—North American Fauna No. 23, Index Generum Mammalium, by Dr. T. S. Palmer. Paper copy preferred. State condition and price in first letter.—RALPH W. JACKSON, *Route No. 1, Cambridge, Maryland.*

WANTED—Foreign and domestic doves; live birds desired. Quote variety and price.

—W. P. STEINBECK, *1029 N. Hunter St., Stockton, Calif.*

TO EXCHANGE—For fresh water, land and marine shells, I will exchange California marine shells. List sent on application. Send your list in first letter.—HOWARD R. HILL, *815 W. 37th St., Los Angeles, Calif.*

WANTED—Bendire's Life Histories of N. A. Birds, 2 vols.; Bent's Life Histories of N. A. Birds, 3 vols., U. S. National Museum Bulletin, nos. 107, 113, 121.—J. E. PATTERSON, *Box 478, Ashland, Oregon.*

I HAVE two copies of Bent's "Life Histories of North American Gulls and Terns", U. S. Nat. Mus. Bull. no. 113; \$5 each, delivered.—W. LEE CHAMBERS, *Eagle Rock, Los Angeles Co., California.*

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PACIFIC COAST AVIFAUNA

No. 6. Index to the Bulletin of the Cooper Ornithological Club, vol. 1 (1899), and its continuation *The Condor*, vols. II (1900) to X (1908), by Henry B. Kaeding, 1909, 48 pp. Price \$2.00 post paid.

No. 13. Second Ten Year Index to *The Condor*, volume XI-XX, 1909-1918, by J. R. Pemberton, 1919, 92 pp. Price \$3.00 post paid.

These two volumes are obviously necessary to the completion of a file of the *Condor*. In the "Second Ten Year Index" information is segregated by species under all the different names employed, by authors, by states and countries, in California by counties, and by subject matter.

